~~RULES~~
~~OF THE~~
~~MISSISSIPPI DEPARTMENT OF AGRICULTURE AND COMMERCE~~

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~~SUBPART 3-BUREAU OF PLANT INDUSTRY~~
~~CHAPTER 10-Crop Spraying And Licensing of Aerial Applicators~~
~~SUBCHAPTER 01 - Regulation of Application of Hormone-Type Herbicide By Aircraft~~
~~Definitions.~~

~~100.01 "Act" - shall mean Sections 69-21-1 through 69-21-27, Mississippi Code 1972.~~

~~100.02 "Bureau" - shall mean Bureau of Plant Industry, of the Mississippi Department of Agriculture and Commerce under the provisions of Section 69-25-3, Mississippi Code 1972.~~

~~100.03 "Hormone-Type Herbicide" - shall mean all phenoxy type herbicides given in Section 69-21-5 of the Act and other chemicals or substances which produce physiological changes in plant tissue without producing a burning effect, such as caused by many oils, which the Bureau of Plant Industry may declare to be extremely hazardous to crops or plants other than those for which the particular herbicide is intended to control, and shall not be limited to the following materials: 2,4-D (2,4-dichlorophenoxyacetic acid) 2,4-DP 2-(2,4-dichlorophenoxypropionic acid in all forms; 2,4-DB 4-(2,4-dichlorophenoxy) butyric acid in all forms; MCPA 4-chloro-2-methyl phenoxyacetic acid in all forms; Dicamba 2-Methoxy-3, 6-dichlorobenzoic acid in all forms, and picloram (4-amino-3,5,6-trichloropicolinic acid) in all forms.~~

~~Requirements For Obtaining A License To Apply Hormone-Type Herbicides By Aircraft.~~

~~101.01 Any person, firm or corporation who intends to apply hormone-type herbicides by aircraft shall obtain from the Bureau an application form, for use in applying for the written examination, which must be completed and returned to the Bureau. The application form shall designate a chief pilot or other person who is to serve as supervisor and each person who will be acting as a pilot or operator of aircraft applying hormone-type herbicides. Upon receipt of the application, the Bureau will make arrangements for each person listed to take an examination which will be used as a basis to determine if he possesses adequate knowledge concerning the proper use and application of hormone-type herbicides and that he understands the dangers of their use.~~

~~101.02 Spraying equipment on aircraft must meet specifications as outlined in Sections 104 and 105 of this chapter.~~

~~101.03 Before a license is issued, bond or insurance requirements must be met as outlined in Section 103 of this chapter.~~

~~101.04 As is required under the "Act," all nonresident licensees must appoint a resident agent upon whom process may be served. The Power of Attorney appointing such process agent shall be prepared in such form as to render effective the jurisdiction of the courts for the State of Mississippi over such nonresident licensee and make such licensee amenable to the jurisdiction of the courts of Mississippi. The resident process agent may be the Secretary of State or any other duly appointed resident agent upon whom process may be served. A copy of the Power of Attorney must be certified through the office of the Secretary of State and filed with the Bureau. Power of Attorney forms for appointing a resident process agent will be furnished by the Bureau.~~

~~101.05 If at any time the Bureau finds that a licensee has engaged in fraudulent business practices in the application of herbicides or has made any application in a faulty, careless or negligent manner, or has performed work in a category for which he is not approved, or has violated any of the provisions of the Act or these regulations, the Bureau may suspend such license to apply hormone-type herbicides by aircraft for a period of ten days, and, after opportunity for a hearing, may revoke or modify the provisions of the license.~~

~~Expiration and Renewal of License~~

~~102.01 Any license issued to apply hormone-type herbicides by aircraft shall expire on the 31st of March of the year following it's issuance: PROVIDED that the licensee may request that the license be dated to expire at any date prior to March 31st of the year of issue.~~

~~102.02 All licenses may be renewed by filing an application for renewal on a form prepared for that purpose. Before renewal of the license, the applicant shall submit proof of maintenance of competency which may consist of attendance at an approved training session, or retesting.~~

~~Insurance Requirements~~

~~103 Any individual, partnership, association, firm or corporation desiring to apply hormone-type herbicides under the provisions of the Act shall maintain a fidelity bond or insurance policy satisfactory to the Bureau in the amount of $100,000 bodily injury for any one person, and $300,000 bodily injury for any one occurrence, and $100,000 property damage, except property damage shall be $200,000 for application to rice for any one occurrence, for each aircraft used to apply hormone herbicides. No surety bond or insurance will be accepted from~~

~~bonding or insurance companies which are not approved by the Insurance Department of the State of Mississippi. It should be understood that any bond, insurance or other security must be conditioned that the principal therein named shall pay for any and all damages suffered by any person, firm, association, or corporation by reason of the negligence of the principal or his or its agents or employees in the conduct of the business authorized by the Act and shall honestly conduct said business as otherwise conditioned by the Bureau. No liability insurance policy will be accepted by the Bureau which carries a deductible liability clause, as insurance must give complete coverage from $1 up to the required coverage against damage to susceptible crops. This same condition applies to bond or other security. The license will automatically be canceled if the bond, insurance, or security becomes unsatisfactory or is canceled or expires.~~
~~(Amended June 7, 1990)~~

~~Specifications and Inspection of Spray Equipment on Aircraft~~

~~104.01 Conventional Spray Equipment: The spray equipment on an aircraft must have a positive cockpit-operated cutoff control at the tank and the same or its equivalent (diaphragm check) at each nozzle and be equipped with functional bleed-back systems where booms extend past the last operating nozzle, and must be kept in good operating condition. Nozzles should be cylindrical jet producing types with not less than 1/8 inch (0.125 inch) diameter, simple orifice or tube with no mechanism which would cause a sheet, cone, fan or other dispersion pattern which would break up the spray into droplets smaller than those comparable to the size droplets produced by a simple jet producing type nozzle. The number of nozzles shall be sufficient to deliver not less than five gallons of water solutions per acre for applications made from April 1 to September 30, or three gallons per acre for applications made from October 1 to March 31. When more than five gallons per acre are to be applied, this may be done by increasing the number of nozzles or the diameter of the orifice openings. So as to reduce the amount of spray drawn into the wing tip vortices, the distance between the outermost nozzles shall not exceed 70% of the fixed wing span or rotor diameter. Nozzle discharge shall be directed with the slipstream or at a maximum of 10 degrees downward from the horizontal.~~

~~104.02 Special Drift Control Spray Systems and Equipment: Any equipment designed for special purposes and drift control, (such as the Microfoil boom, Warnell System, Thru-Valve Boom, or similar equivalent equipment) must be approved before a license is issued. Field operation of the equipment for observation may be required before approval. If it is determined that the equipment is not operating in a safe manner, a license will not be issued.~~

1. ~~Boom length shall not exceed 70% of the rotor diameter.~~
2. ~~Inspection and Testing of Equipment: The spraying or application equipment on all aircraft used in applying hormone-type herbicides may be inspected by a District Entomologist of the Bureau to see if such equipment will meet with requirements, and may be pattern tested and~~

~~achieve a coefficient of variation of not greater than 20% across the pattern before approval, and may be spot checked in the field.~~

~~104.03 Other special drift control equipment and/or new technology equivalent to the above listed equipment may be approved upon submission of supporting equivalency data by the manufacturer, except for use on rice.~~

~~(Section 104 amended June 7, 1990.)~~

~~Materials and Methods of Application~~

~~105.01 All phenoxy-type chemicals or substances used as herbicides which the Bureau may declare to be extremely hazardous to crops or plants other than those for which the particular herbicide is intended to control which produce a physiological change in plant tissue without burning as defined in Section 69-21-5 are covered by these regulations. Chemicals as well as common names of such materials are outlined in Section 100.03 of this chapter.~~

~~105.02 2,4-D, Dicamba, and/or MCPA shall not be applied in any form to any crop or site by fixed wing aircraft between the dates of April 1 and September 30; and~~

~~105.03 2,4-D and/or MCPA shall not be applied in any form to rice by helicopter between the dates of April 1 and September 30, except as follows:~~

~~1. Helicopter must be equipped with precision type spray system. (Microfoil type)~~

~~2. Equipment Specifications and Application Techniques~~

~~a. Boom: No longer than rotor diameter~~

~~b. Nozzles: i. .028" Airfoil or larger, or~~
~~ii. .028 Accu Flow, or larger, 32 tube~~

~~c. Volume: 5 gal. minimum total spray volume per acre~~

~~d. Flight Speed: 30 mph maximum in critical areas, and 60 mph maximum in field away from critical areas~~

~~e. System Pressure: Maximum of 30 PSI with very low pressure at tubes~~

~~f. Wind Speed: Not to exceed 5 mph at time of application~~

~~g. Temperature: Not to exceed 90° F. at time of application~~

~~h. Wind Speed and Direction Indicators: Must be used during application~~

~~i. Buffer Zone: Application is prohibited within one-half (½) mile of commercial plantings of cotton or other highly susceptible crops such as grapes, tomatoes, etc., unless the applicator, or person for whom the application is made, furnishes the Bureau of Plant Industry written permission from the owner of those highly susceptible crops at least 24 hours prior to the time the application is made.~~

~~3. Insurance: Property damage liability insurance for applications under this section of these regulations must be in the amount of $200,000.00 for each occurrence.~~

4. ~~Observer: An observer employed by the applicator and/or the rice producer for whom the application is made, must be present at all times to monitor the application and record temperature, wind speed and direction, and other pertinent information. Temperature, wind speed and direction must be measured and recorded immediately prior to application, and monitored consistently during the application with recordings made when changes occur or every 1/4 hour (15 minutes). The time of day shall be recorded for the period of time such data is collected.~~

   ~~Example of Data to be recorded:~~

   ~~a. Date, 6/20/90~~
   ~~b. Time, 10:00 a.m.~~
   ~~c. Wind Direction, NE or 45°~~
   ~~d. Wind Speed, 2 mph~~
   ~~e. Temperature, 86° F.~~
5. ~~Inspector/Observer: An Inspector/Observer from the Bureau of Plant Industry, or other Bureau of Plant Industry personnel, may be assigned to each applicator. The Inspector/Observer will monitor and record wind speed and direction, temperature, herbicide use and symptoms of herbicide injury in the vicinity of the treated area, and labeling for the herbicide being applied.~~
6. ~~Pilot Training: Each pilot making applications must complete an approved training course in proper application.~~
7. ~~Equipment Inspections: Equipment may be inspected by the Bureau of Plant Industry. Inspections of equipment may be made at any time during and after the time it is used.~~
8. ~~Tank Mixes: Tank mixes with other pesticides and/or fertilizers are prohibited.~~
9. ~~Ester Formulations: Applications of ester formulations are prohibited.~~

~~105.04 2,4-D, Dicamba, and/or MCPA applied to other crops or sites between April 1 and September 30 by helicopter shall not be applied within one-half (½) mile of commercial plantings of cotton, or other highly susceptible crops such as tomatoes, snap beans, grapes (and soybeans in the case of Dicamba). Helicopters must be equipped with special spray systems and equipment designed for drift control (such as Microfoil boom, Warnell System, Thru-Valve boom, or similar equivalent equipment) and be approved by the Bureau of Plant Industry following inspection and testing as indicated in subsection 105.02 above.~~

~~105.05 Ester formulations of 2,4-D and MCPA shall not be applied from April 1 thru September 30; and~~

~~105.06 Drift control agents shall be used in accordance with labeling with all hormone-type herbicides applied between the dates of April 1 and September 30 unless spray system precludes such use.~~

~~105.07 Smoke and/or other suitable means shall be used to detect inversion conditions and determine wind direction and speed.~~

~~105.08 Applicators shall not use less volume of spray per acre than provided for on the labeling of the herbicide being used and in no case shall the volume of total spray per acre be less than five gallons between April 1 and September 30, or three gallons between October 1 and March 31.~~

~~105.09 Applications of hormone-type herbicides shall not be made when a temperature air inversion exists or when air temperatures within the application zone are 90° F., or above.~~

~~105.10 The application of high volatile ester formulations is prohibited at any time.~~

~~105.11 Transportation of hormone-type herbicides by aircraft other than while treating crops involved is prohibited.~~

~~(Section 105 amended April 3, 1991.)~~

~~Procedure To Be Followed in Applying Hormone-Type Herbicides~~

~~106.01 No hormone-type herbicide shall be applied by aircraft when the wind velocity exceeds 5 miles per hour.~~

~~106.02 No hormone-type herbicide shall be discharged at a height greater than 10 feet with fixed wing aircraft and/or 30 feet for helicopters above the tops of the plants being treated except in power line right-of-way work, nor over any crops, or properties other than the crop being treated.~~

~~106.03 Hormone-type herbicide applications shall be made consistent with the label, including all use directions, precautions, instructions, etc.~~

~~106.04 Nozzle orientation shall be with the air stream.~~

~~106.05 Spray pressure shall be sufficient for the type of aircraft and spray equipment being used.~~

~~106.06 Spray volume shall not be less than 5 gallons per acre.~~

~~106.07 Wind direction shall be away from sensitive areas.~~

~~106.08 Pesticide containers shall be disposed of as per label directions at the time of use.~~

~~106.09 The following good operating practices are recommended when applying hormone-type herbicides:~~

1. ~~Make survey of area before application.~~

2. ~~Use drift control materials or application system designed to reduce drift.~~
3. ~~Work downwind from susceptible crops or sensitive areas.~~
4. ~~Use wind direction device such as smoke or wind sock.~~
5. ~~Do not have spray turned on over areas outside of area to be treated, have aircraft down over target area before turning spray on and turn spray off before pull up.~~
6. ~~Check equipment regularly for leaks and other malfunctions.~~
7. ~~Do not fly or turn over sensitive areas.~~
8. ~~Use ground crew for observation when application is being made.~~
9. ~~Use discretion, judgment, and adequate precautions such as additional or expanded buffer zones and/or delay application pending favorable climatic conditions in order to prevent contamination of non-target areas.~~
10. ~~Properly dispose of pesticide containers. Open burning is prohibited and may cause a hazard to susceptible crops.~~

~~Reporting Treatment~~

~~107 Record of Spraying by Air: Applicators shall keep complete and accurate records of all work performed for a period of at least two years after the application. Such records shall include the following:~~

1. ~~Name and address of the persons in control of the land, crop, or site treated~~
2. ~~Location of the land to be sprayed, location of the loading field and the line of flight between said site of application and loading field~~
3. ~~Date and time of application~~
4. ~~Direction and velocity of the wind~~
5. ~~Brand or product name, EPA Registration Number of herbicide applied, and amount and concentration of the material applied.~~
6. ~~Temperature at time of application~~
7. ~~Name and license number of pilot who made application and "N" number of aircraft~~
8. ~~Total acreage receiving application, and kind of crop treated~~
9. ~~Other information needed for a complete and accurate record~~

~~Exemptions~~

~~108 These regulations do not apply to the U. S. Department of Agriculture, the Mississippi Agricultural and Forestry Experiment Station, or other state and federal agencies when their own equipment is used.~~

~~Effective Date~~

~~109 These regulations will become effective following approval by the Bureau of Plant Industry Advisory Board, adoption by the Commissioner, filing with the Secretary of State, and notification of those persons licensed to apply Hormone-Type Herbicides by Aircraft under present regulations.~~

~~(Section 101-Amended December 12, 1974; March 9, 1984; April 1986; April 1987; April 5, 1990; June 7, 1990; April 3, 1991; June 14, 2001 and March 1, 2004).~~